

7 July 2003

Office of Engineering and Technology  
Federal Communications Commission  
445-12th Street SW  
Washington, DC 20554

Ref. ET Docket No. 03-104

Subject: Notice of Inquiry, Broadband Over Power Line (BPL)

To Whom It May Concern,

I wish to submit the below Public Comments in response to the Commission's Notice Of Inquiry, Broadband Over Power Line. ET Docket No. 03-104

As an Electrical Engineering Professional, and an Extra Class Licensee in the Amateur Radio Service, I have serious reservations concerning the potential incompatibility of proposed Broadband Over Power Line (BPL) systems versus existing R.F. spectrum authorized users.

As outlined in the FCC news release dated 4/23/03, the proposed new BPL systems would produce modulated digital signals in the frequency range of 2-80MHz, transmitted over existing medium voltage power lines, with the objective of bringing internet and other broadband applications to homes and businesses. There are several potential technical problems with this approach which must be considered.

1. Power lines are of such physical dimension that they are designed to efficiently carry AC energy at 60Hz. At RF frequencies proposed for BPL (2-80MHz) these transmission lines will become signal radiators of energy, not efficient transmission lines.
2. The wideband nature of the modulated digital signals to be dispersed through the existing power lines would potentially blanket the proposed 2-80MHz spectrum with radiated emissions proportional to the high data rate.
3. As outlined in 1 & 2 above there is a serious potential for interference to existing authorized users of the 2-80MHz spectrum. Using power Lines for wide band transmissions would blanket the nation with interference .

Existing authorized users of the 2-80MHz spectrum include:

1. International broadcast services which provide uncensored and free of charge news and information from around the world. Interference from BPL signals would in effect block or jam these signals.
2. Aeronautical radio services are users of this spectrum. These services provide long range communications for both commercial and military purposes. These services rely upon the use of this spectrum for business and safety . To cause interference could potentially cause loss of life and possibly disaster.
3. The Amateur Radio Service depends on a clean, low-noise RF environment due to the relatively low power transmitted, resulting

in the low level of the received signal. The Amateur Radio service could be seriously affected by the deployment of BPL since the HF amateur bands used for long distance world-wide communications fall directly within the 2-80MHz spectrum to be used by BPL. Amateur Radio provides a key communications service during emergencies. Examples of emergency usage include disaster communications following a terrorist attack, assisting the National Weather Service and NOAA tracking Hurricanes and other storms, thus providing information which affects the safety and welfare of the populations in the path of these storms. BPL could render these important services useless due to the potential interference generated by the power lines in use.

4. Commercial television broadcast services fall within the spectrum proposed for BPL usage. Current analog and future digital signals could be tainted by interference caused by these BPL signals. The potential is extremely high for interference due to the signals being effectively brought into the home resulting in the close proximity of the television receiver to the BPL transmission line.

There are many more potential issues that should be explored prior to allowing BPL to be deployed. The concerns and issues which I have outlined here are just the obvious ones.

I believe that one of the duties of the Federal Communications Commission is to ensure that the Radio Spectrum is maintained in an orderly fashion. Authorized users should be protected as promised and not thrown by the wayside. To allow the deployment of BPL as proposed would be a great injustice to all and a potential mistake that would be hard to remedy. Japan tried BPL but dropped it. The published studies from Japan should be included in this inquiry.

I request that you please enter these comments into the Public Comments file of ET Docket No. 03-104, relating to Notice of Inquiry, Broadband Over Power Line.

Sincerely,

Thomas Bredemus